

EST 34 4457

29-01-2001

- 16 -

CLAIMS

1. An installation comprising a worktop such as a conveyor, a first wall and a device (100) for the close protection of products arranged on the worktop (12), which are sensitive to contamination from the ambient environment, by diffusion of a sterile air stream in a direction substantially perpendicular or parallel to said worktop, said device extending along said worktop and having at least one end adjoining the first wall (10) so that there is an air gap (1) between said end and said first wall, characterized in that said end is formed by a porous second wall made of a perforated material, extending substantially perpendicularly to the longitudinal axis (X) of said device, in such a way as to create in said gap (1) a sterile air leakage directed outward away from the worktop (12), this sterile air leakage countering any ambient air induction into said gap toward said worktop.
2. The installation as claimed in claim 1, characterized in that said first wall (10) is a machine outlet wall provided with an aperture opening onto the worktop.
3. The installation as claimed in one of claims 1 or 2, characterized in that said first wall is an end wall of another similar device with which it forms a set of devices for the close protection of products arranged on a worktop of large length, which are sensitive to the contamination conveyed by the ambient environment, said devices being abutted without mechanical fixing therebetween.

4. The installation as claimed in claim 3, characterized in that said first wall is a porous wall made of a perforated material through which is created a sterile air leakage directed outward away from said worktop.

5. The installation as claimed in any one of claims 1 to 4, characterized in that it comprises at least one sheath (101, 102, 103) made of a flexible material diffusing a sterile air stream in a vertical direction substantially perpendicular to said worktop (12), said sheath being formed of a quasi-leaktight upper wall and of a porous lower wall made of a perforated flexible material, extending longitudinally along the axis (X) of the sheath and delimiting between them a sterile air supply duct, and the sheath having an end formed by a porous wall made of a perforated flexible material.

6. The installation as claimed in claim 5, characterized in that said end wall and the porous lower longitudinal wall of the sheath are made from a material of like porosity.

7. The installation as claimed in one of claims 5 or 6, characterized in that the perforated flexible material constituting the porous lower longitudinal wall and said end wall of the sheath is a synthetic fabric such as a polypropylene or polyester fabric.

8. The installation as claimed in one of claims 5 to 7, characterized in that each longitudinal edge of the quasi-leaktight upper longitudinal wall of said sheath is continued by a skirt (104, 105) which extends vertically toward the worktop (12)

and which constitutes a means of diffusion of sterile air at high velocity relative to the porous lower longitudinal wall of the sheath which diffuses the sterile air at low velocity.

5

9. The installation as claimed in any one of claims 5 to 7, characterized in that it comprises a plurality of sheaths (101, 102, 103) made of a flexible material, juxtaposed so that their axes (X) are parallel and arranged in one and the same plane parallel to the worktop, said sheaths (101, 102, 103) covering the entire width of said worktop (12).

10

10. The installation as claimed in claim 9, characterized in that the external longitudinal edge of the quasi-leaktight upper wall of the sheath (101, 103) situated at each end of the juxtaposition of sheaths, is continued by a skirt (104, 105) which extends vertically toward the worktop (12) and which constitutes a means of diffusion of sterile air at high velocity relative to the porous lower walls of said sheaths which diffuse the sterile air at low velocity.

20

25

11. The installation as claimed in one of claims 8 or 10, characterized in that the two skirts (104, 105) are of the same length and extend up to the immediate proximity of the worktop.

30

12. The installation as claimed in one of claims 8 or 10, characterized in that the two skirts (104, 105) have different lengths and form a long skirt (104) whose length is approximately equal to the height allowed for between the axis of the sheath and the worktop and a short skirt (105) whose length is approximately equal to half the length

35

ART 34 ADT

204029-04106860

Sub A4

APT 34 1107

of the long skirt.

5 13. The installation (200) as claimed in any one of
claims 1 to 4, characterized in that it comprises
at least one ventilation nozzle (201) arranged on
a longitudinal edge of said worktop (12) and able
to produce directed toward said products a sterile
air stream in a horizontal general direction
substantially parallel to said worktop, said
10 ventilation nozzle (201) comprising at its outlet
an air diffuser (202) made of a perforated
material provided with upper and lower parts which
produce an anti-inductive air flow whose velocity
of diffusion exhibits a component normal to the
15 worktop, said end (201a, 201b) of said ventilation
nozzle being formed by a wall made of a perforated
material.

20 14. The installation as claimed in claim 13,
characterized in that said end wall (201a, 201b)
of the ventilation nozzle and the upper part
(202a) and lower part (202b) of the air diffuser
(202) are made from perforated sheet of like
porosity.

25
Sub AS 15. The installation as claimed in one of claims 13 or
14, characterized in that the ventilation nozzle
comprises at the level of said porous end (201b),
on its upper surface extending horizontally up to
30 its outlet, a strip (201c) of perforated material
forming a sterile air flow directed essentially
vertically away from the worktop.

35 16. An assembly for the close protection of products
arranged on a worktop such as a conveyor, which
are sensitive to the contamination conveyed by the
ambient environment, characterized in that it

APP 34 2007

5 comprises an installation (100) according to claim
11 and at an extremity of said device, at least
one ventilation nozzle (201) arranged on a
longitudinal edge of said worktop, able to produce
directed toward said products a sterile air stream
in a horizontal general direction substantially
parallel to said worktop, said ventilation nozzle
comprising at its outlet an air diffuser made of
perforated material comprising upper and lower
10 parts which produce an anti-inductive air flow
whose velocity of diffusion exhibits a component
normal to the worktop, said device furthermore
comprising at the junction with said ventilation
nozzle a vertical end skirt extending in a plane
15 perpendicular to the planes of the lateral skirts
of said sheath, directed toward said worktop up to
a determined distance therefrom so as to permit
the passage of said products under said end skirt.

20 17. An assembly for the close protection of products
arranged on a worktop such as a conveyor, which
are sensitive to the contamination conveyed by the
ambient environment, characterized in that it
comprises an installation (100) according to claim
25 12 and at an extremity of said device, at least
one ventilation nozzle (201) arranged on a
longitudinal edge of said worktop, able to produce
directed toward said products a sterile air stream
in a horizontal general direction substantially
30 parallel to said worktop, said ventilation nozzle
comprising at its outlet an air diffuser made of
perforated material comprising upper and lower
parts which produce an anti-inductive air flow
whose velocity of diffusion exhibits a component
35 normal to the worktop, said device furthermore
comprising at the junction with said ventilation
nozzle a vertical end skirt extending in a plane

09590140-000400

ART 34 AMEND

29-01-2001

- 21 -

FR 000000161

perpendicular to the planes of the lateral skirts of said sheath, directed toward said worktop up to a determined distance therefrom so as to permit the passage of said products under said end skirt.

5

18. The installation as claimed in one of claims 1 to 4, characterized in that it comprises a cubicle (300) positioned above the worktop (12), supplied with sterile air and having a porous lower wall (301) for diffusing sterile air in a vertical direction substantially perpendicular to the worktop (12), said porous wall being made of perforated sheet and exhibiting a profile such that it ensures central diffusion of sterile air at low velocity bordered on each side by a diffusion of sterile air at high velocity, said end of the cubicle being formed by a wall comprising at least one porous zone (302) made of a perforated material extending over the entire width of said cubicle and rising from the lower edge of said cubicle to a certain determined height.

10

15

20

25

19. The installation as claimed in claim 18, characterized in that said height is of the order of 25 mm.